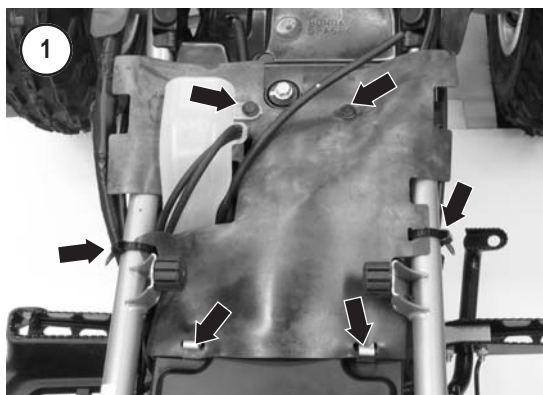


NOTE: Refer to the Supplement at the back of this manual for information unique to 2006-on models.

CHAPTER EIGHT

FUEL, AIR AND EXHAUST SYSTEMS

8



This chapter includes service procedures for all parts of the fuel system, as well as the exhaust system. Routine air filter service is covered in Chapter Three.

The fuel system consists of the carburetor, fuel tank, fuel valve, air box and air filter.

Table 1 lists carburetor specifications; **Table 2** lists fuel and exhaust system torque specifications. During assembly, tighten fasteners to the specifications in **Table 2**. **Table 1** and **Table 2** are at the end of the chapter.

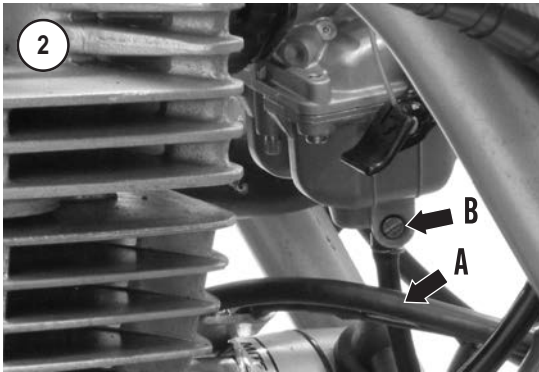
CARBURETOR

Carburetor Removal/Installation

NOTE

Mark each hose and its fitting during removal so each hose is installed onto the correct fitting during installation.

1. Park the vehicle on level ground and set the parking brake.
2. Remove the seat and both side covers (Chapter Fourteen).
3. Disconnect the negative battery cable from the battery (Chapter Three).
4. Remove the rear heat protector from the frame (**Figure 1**).
5. Remove the air box as described in this chapter.
6. Place a suitable container beneath the drain hose (A, **Figure 2**). Open the drain screw (B, **Figure 2**), and drain the fuel from the float bowl.
7. Unscrew the throttle valve cover (A, **Figure 3**), and remove the throttle valve assembly from the carburetor (**Figure 4**).
8. Disconnect the fuel hose (B, **Figure 3**) from the carburetor.

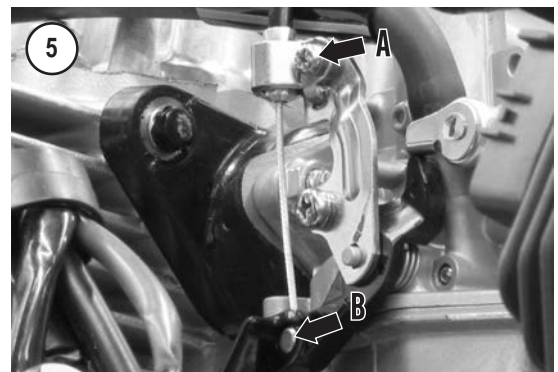


9. Loosen the clamp screw (A, **Figure 5**), and disconnect the choke cable (B) from the choke lever.

10. Remove the mounting nut (**Figure 6**) on each side of the carburetor, and remove the carburetor from the intake manifold.

11. Install the carburetor by reversing these removal steps, while noting the following:

- Install a new O-ring (**Figure 7**) into the groove in the carburetor mounting boss.
- If removed, install the boot (C, **Figure 3**) onto the throttle valve cover. Align the boot tab with the groove in the cover.
- Adjust the throttle cable free play and engine idle speed as described in Chapter Three.
- If necessary, adjust the pilot screw as described in this chapter.



Throttle Valve Disassembly

1. Pull the spring out of the throttle valve (**Figure 8**).

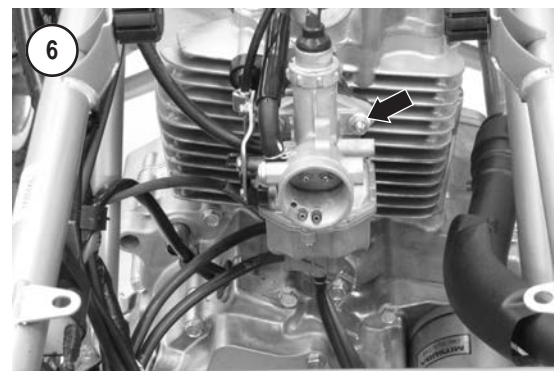
2. Push the throttle cable into the throttle valve, and disengage the cable end from its seat in the throttle valve.

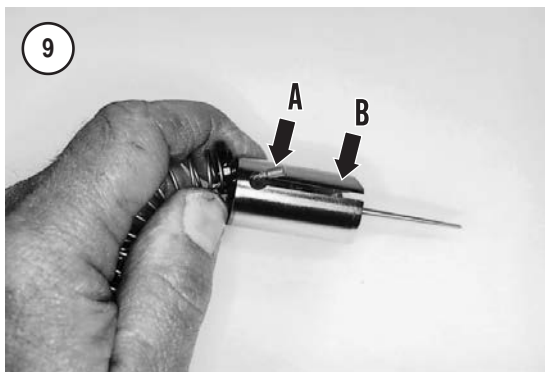
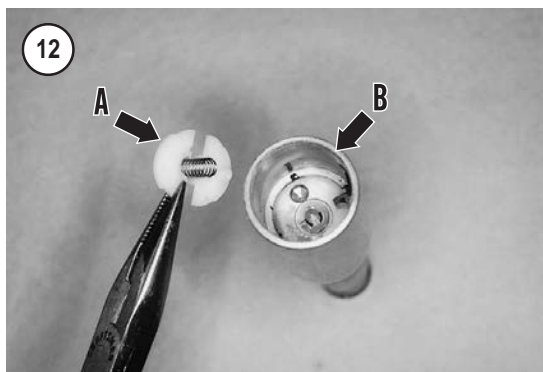
3. Slide the throttle cable end (A, **Figure 9**) out the throttle valve cutout, and remove it from the throttle valve (B).

4. Remove the throttle valve spring from the throttle valve cover (**Figure 10**).

5. Pinch the retainer knob (**Figure 11**) to release it from the throttle valve bore, and remove the retainer. Watch for the small spring in the bottom of the retainer. Refer to **Figure 12**.

6. Remove the jet needle from the throttle valve. Note the position of the jet needle clip. If removed, record the clip position so it can be reinstalled in the same groove.





7. Inspect the throttle valve assembly as described in this section.

8. If necessary, adjust the jet needle clip as described in this chapter.

Throttle Valve Assembly

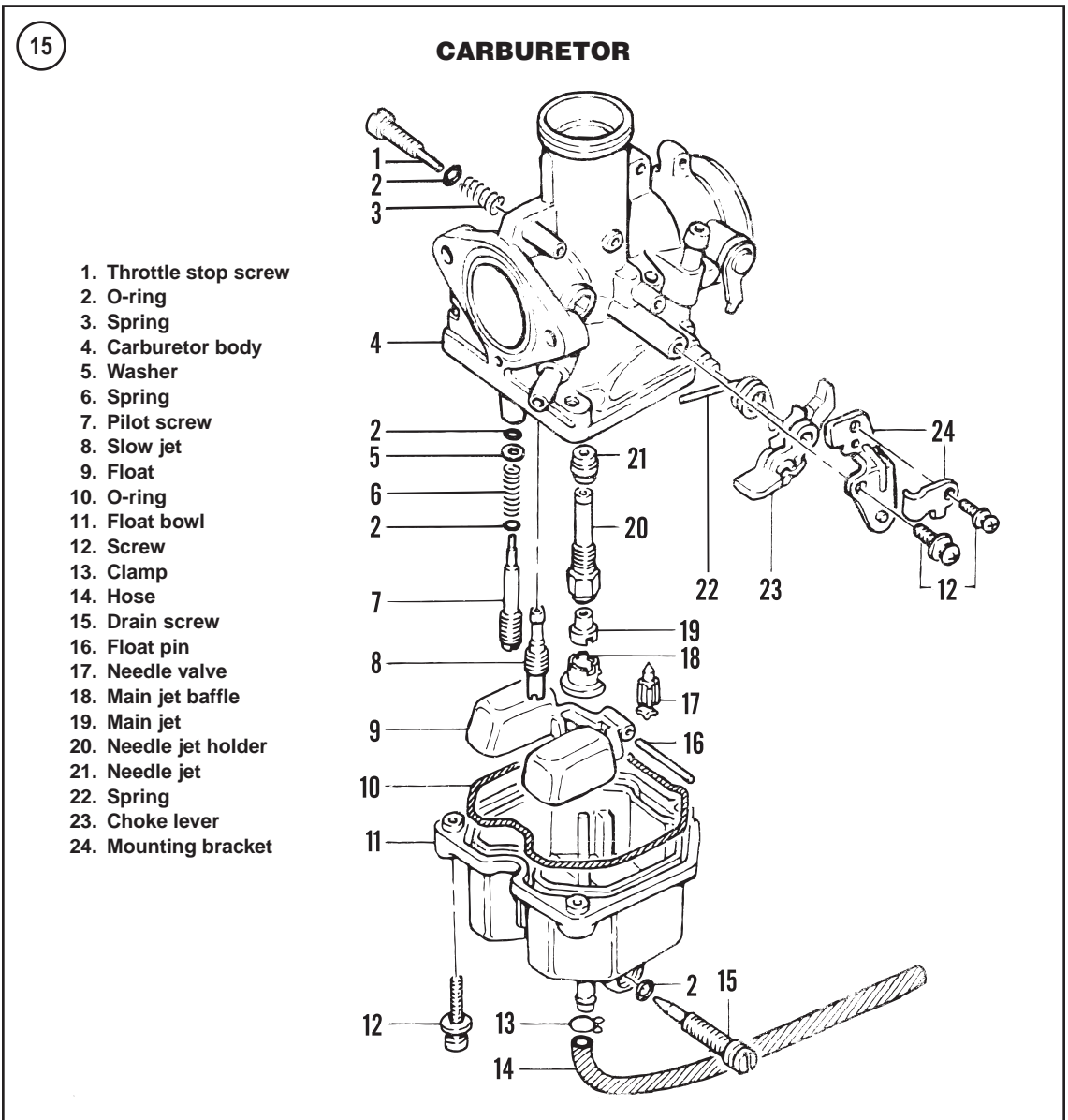
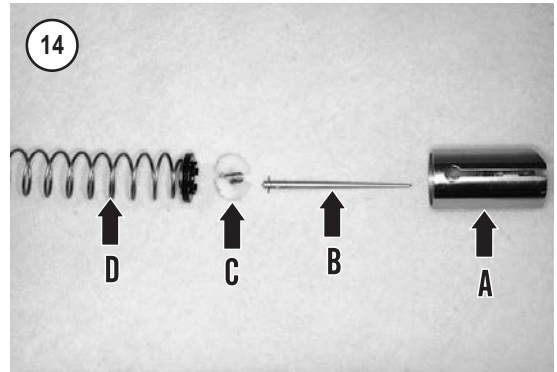
1. If removed, install the jet needle clip onto the position noted during removal or to the specified position.

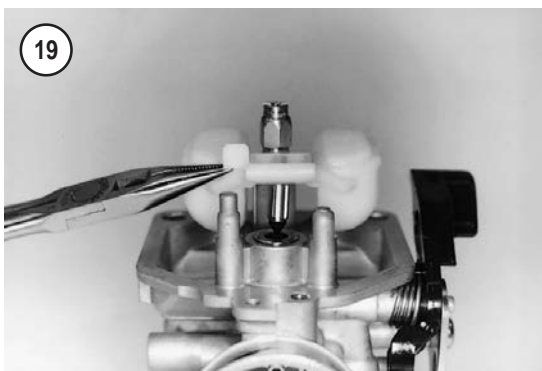
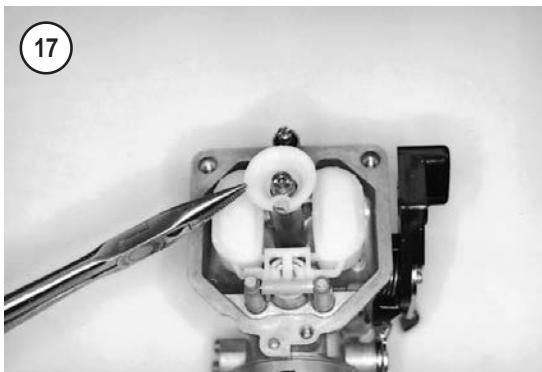
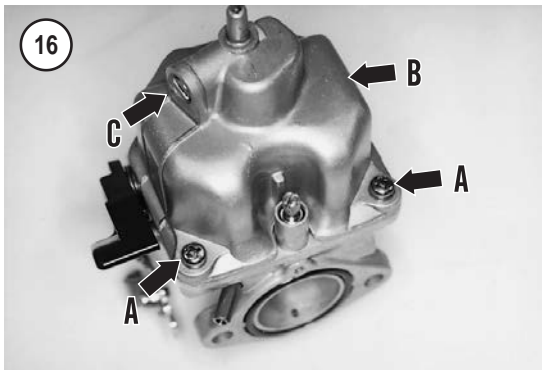
2. Install the jet needle into the throttle valve assembly.

3. Pinch the retainer knob (**Figure 11**), and seat it in the throttle valve. Make sure the locating tab on the retainer (A, **Figure 12**) sits in the cutout on the throttle valve (B).

4. Install the throttle valve spring into the throttle valve cover (**Figure 10**).

5. Compress the throttle valve spring. Feed the throttle cable end (A, **Figure 9**) along the throttle valve cutout and through the slot in the retainer (**Figure 8**). Make sure the cable end engages the seat in the throttle valve.





6. Release the spring and seat it in the bottom of the throttle valve (**Figure 13**).

Throttle Valve Inspection

1. Inspect the throttle valve (A, **Figure 14**) for signs of abrasion.
2. Inspect the jet needle (B, **Figure 14**) for nicks, steps and other signs of wear.
3. Inspect the retainer (C, **Figure 14**) for cracks or signs of deterioration.
4. Inspect the spring seat and the throttle valve spring (D, **Figure 14**) for signs of fatigue or damage.

Carburetor Disassembly

Refer to **Figure 15**.

1. Remove the drain hose from the float bowl.
2. Remove the float bowl screws (A, **Figure 16**) and float bowl (B) from the carburetor body.
3. Remove the main jet baffle (**Figure 17**).
4. Remove the float pin (**Figure 18**) from the posts in the float bowl.
5. Lift the float and the needle valve (**Figure 19**) from the carburetor.
6. While counting the number of turns, turn the pilot screw in until it *lightly* seats. Record the number of turns for assembly. Back the pilot screw out, and remove it from the carburetor (**Figure 20**). A washer, spring and O-ring should come out with the pilot screw (**Figure 21**). Watch for a second O-ring. It may remain in the pilot screw bore.
7. Remove the slow jet (**Figure 22**).
8. Remove the main jet (**Figure 23**).
9. Remove the needle jet holder (**Figure 24**).

10. Turn the carburetor so its top side faces up, and tap the body to remove the needle jet (**Figure 25**). If the needle jet does not fall out, gently push it out with a plastic rod.
11. Remove the throttle stop screw (**Figure 26**).
12. Remove the drain screw (C, **Figure 16**) and O-ring from the float bowl.

NOTE

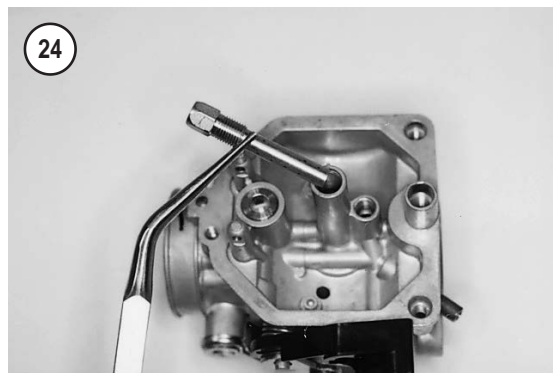
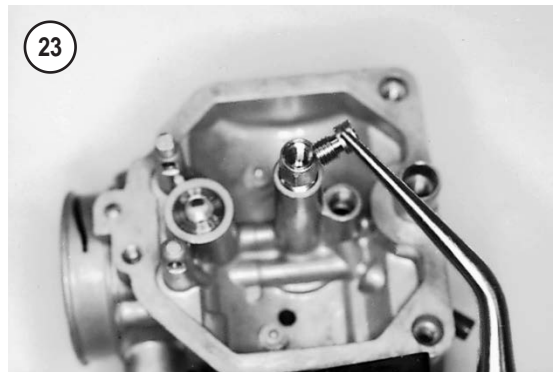
Further disassembly is neither necessary nor recommended.

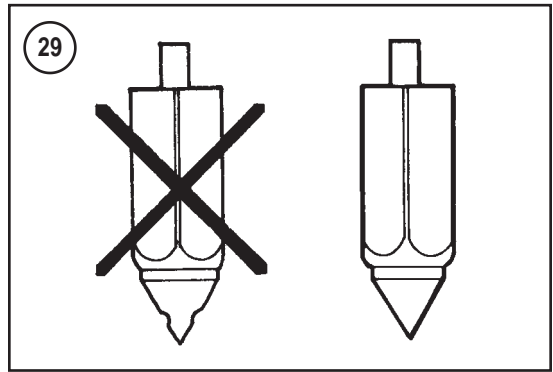
13. Clean and inspect all parts as described in this section.

Carburetor Assembly

Refer to **Figure 15** when assembling the carburetor body.

1. Install the drain screw (C, **Figure 16**) and O-ring into the float bowl. Tighten the drain screw securely.
2. Install the throttle stop screw (**Figure 26**) and spring.
3. Install the needle jet (**Figure 25**) with its chamfered end facing into the carburetor.
4. Install the needle jet holder (**Figure 24**) and tighten it securely.
5. Install the main jet (**Figure 23**).
6. Install the slow jet (**Figure 22**).
7. Install a new O-ring, the spring and washer onto the pilot screw (**Figure 21**).
8. Carefully seat a second new O-ring into the pilot screw bore, and install the pilot screw (**Figure 20**). Turn it in until it *lightly* seats in the carburetor. Back the screw out the number of turns recorded during removal, or set it to the number of turns in **Table 1**.
9. Hook the float valve onto the float, and install the float/valve assembly (**Figure 19**) so the float valve sits in the float valve seat.
10. Insert the float pin (**Figure 18**) through the posts and float.
11. Check the float level as described in this chapter.
12. Install the main jet baffle (**Figure 27**).
13. Install the O-ring into the float bowl groove (**Figure 28**). Install the float bowl, and secure it with the three mounting screws (A, **Figure 16**).
14. Connect the drain hose to the float bowl of the carburetor.





15. Install the carburetor as described in this section.

16. Adjust the pilot screw as described in this chapter.

Carburetor Cleaning and Inspection

1. Clean and dry the carburetor parts.

CAUTION

Do not dip the carburetor body or any of the O-rings in a carburetor cleaner or other solution that damages the rubber parts and seals.

CAUTION

Do not use wire or drill bits to clean jets. Even minor gouges in a jet can change the air/fuel mixture.

2. Clean the float bowl drain tube with compressed air.

3. Replace the float bowl O-ring if it leaks, is damaged or starts to harden.

4. Inspect the float valve assembly as follows:

- Check the end of the needle valve (**Figure 29**) for steps, excessive wear or damage.
- At the opposite end, push the needle in and release it. If the needle does not spring out, replace the needle valve.

5. Check the valve seat in the carburetor (**Figure 30**) for steps, uneven wear or other damage.

6. Inspect the pilot screw (**Figure 21**) and spring for damage. Replace the screw if damaged. Replace both pilot screw O-rings.

7. Inspect the float for deterioration or damage. Check the float by submersing it in a container of water. If water enters the float, replace it.

8. Make sure all openings in the carburetor body are clear. Clean them with compressed air.
9. Inspect all jets (**Figure 31**). Clean their openings with compressed air. Replace any jet that cannot be cleaned.

CARBURETOR ADJUSTMENT

Idle Speed

Refer to Chapter Three.

Float Level

The float valve and float maintain a constant fuel level in the float bowl. Because the float level affects the air/fuel mixture throughout the engine's operating range, this level must be maintained within specification.

The carburetor must be removed and partially disassembled for this adjustment.

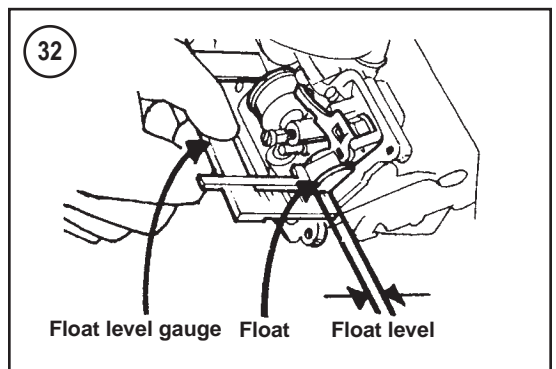
1. Remove the carburetor as described in this chapter.
2. Remove the float bowl mounting screws (A, **Figure 16**) and remove the float bowl (B) from the carburetor body.
3. Hold the carburetor so the needle valve just touches the float arm without pushing it down. Measure the distance from the carburetor body sealing surface to the top of the float with a float level gauge (**Figure 32**), ruler or vernier caliper.
4. The float is non-adjustable. If the float level is incorrect, check the float pin and float valve for damage. If these parts are in good condition, replace the float, and remeasure the float level.
5. Install the O-ring (**Figure 29**) onto the float bowl, and install the float bowl. Tighten the mounting screws securely (A, **Figure 16**).
6. Install the carburetor as described in this chapter.

Pilot Screw

The pilot screw is preset. Routine adjustment is not necessary unless the pilot screw was removed, replaced or the carburetor was overhauled.

WARNING

Do not run the engine in an enclosed area when adjusting the pilot screw. Doing so fills the area with carbon

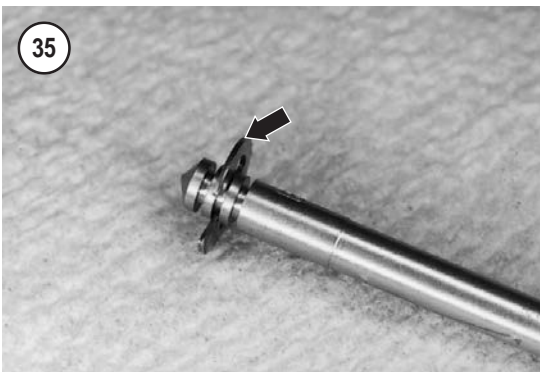
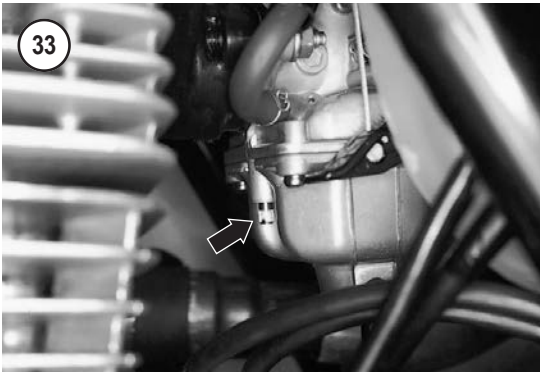


monoxide gas. Dangerous levels of carbon monoxide cause loss of consciousness and death in a short time.

1. Clean the air filter as described in Chapter Three.
2. Connect a tachometer to the engine following the manufacturer's instructions.

CAUTION

Table 1 contains two specifications for the initial pilot screw setting: standard and high altitude. Use the stan-



standard setting if the vehicle is operated below 1500 m (5000 ft.) for sustained periods of time. An engine tuned to the high altitude settings can be damaged if it is run below 1500 m (5000 ft.) for sustained periods of time.

NOTE

To accurately detect speed changes during this adjustment, use a tachometer with graduations of 100 rpm or smaller.

3. Turn the pilot screw (**Figure 33**) clockwise until it *lightly* seats, and then back it out to the initial setting for the model and operating altitude.
4. Start the engine and warm it to operating temperature.
5. Open and release the throttle lever a few times, making sure it returns to its closed position. If necessary, turn the engine off and adjust the throttle cable as described in Chapter Three.
6. With the engine idling, turn the throttle stop screw (**Figure 34**) to set the idle speed to specification.
7. Slowly turn the pilot screw in or out to obtain the highest engine idle speed.
8. Turn the throttle stop screw to reset the idle speed to specification.
9. While reading the tachometer, slowly turn the pilot screw clockwise until the engine speed drops 100 rpm.
10. Slowly turn the pilot screw counterclockwise the number of turns indicated by the secondary setting for the model.
11. Readjust the idle speed with the throttle stop screw. Open and close the throttle lever a few times while checking the idle speed reading. The engine must idle within the speed range in **Table 1**. If necessary, readjust the idle speed with the throttle stop screw.
12. Turn the engine off and remove the tachometer.

Jet Needle

The jet needle (**Figure 35**) controls the air/fuel mixture in the mid-throttle range (between 1/4- and 3/4-throttle). The jet needle can be raised or lowered to adjust the mid-throttle mixture.

1. Remove and disassemble the throttle valve as described in this chapter.

NOTE

*Record the jet needle clip position before removing it. Refer to **Table 1** for the standard jet needle clip position.*

2. Remove the jet needle clip (**Figure 35**) and reposition it on the needle. Lowering the clip raises the needle in the bore and richens the mid-throttle mixture. Raising the clip lowers the needle in the bore and leans the mixture. Refer to **Figure 36**. Move the clip one groove at a time, and then test the engine.

3. Assemble and install the throttle valve assembly as described in this chapter.

High Altitude

There are two different jetting specifications: standard and high altitude. Use the standard jetting when operating the vehicle below 1500 m (5000 ft.). Use the high altitude jetting when operating the vehicle between 1500-2500 m (3000-8000 ft.).

1. Remove the carburetor as described in this chapter.
2. Remove the mounting screws (A, **Figure 16**) and float bowl (B).
3. Remove the standard main jet (**Figure 23**), and install the correct size main jet for high altitude operation. Refer to **Table 1**.
- 4A. If the pilot screw (**Figure 33**) is set to the standard setting, turn it clockwise 1/8 turn.
- 4B. If the status of the pilot screw setting is unknown, turn the pilot screw (**Figure 33**) clockwise until it *lightly* seats. Back the screw out the number of turns indicated for the high altitude specification.
5. Reassemble and install the carburetor.
6. Adjust the idle speed as described in Chapter Three. The idle speed is the same for standard and high altitude carburetor settings.

CAUTION

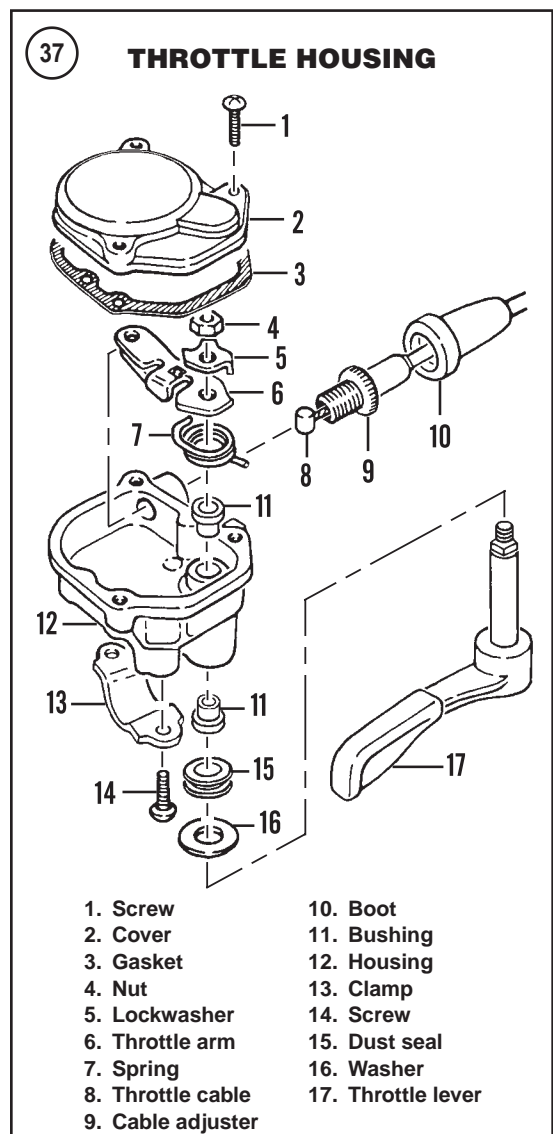
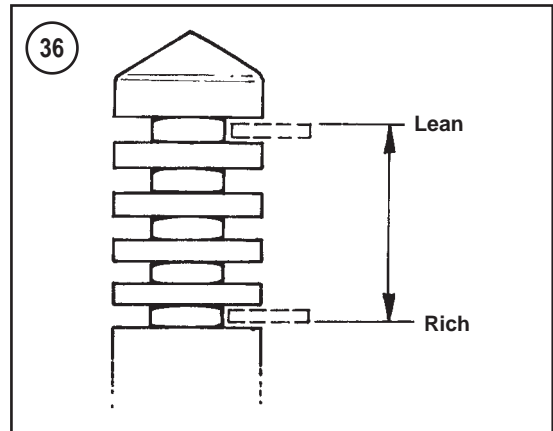
If the engine has been tuned to high altitude specifications, avoid sustained operation at elevations below 1500 m (5000 ft.). Sustained running at these elevations with high altitude jetting may cause overheating and engine damage. For sustained operation at sub-1500 m (5000 ft.) elevations, reset the carburetor to the standard settings by installing the standard main jet and turning the pilot screw counterclockwise 1/8 turn.

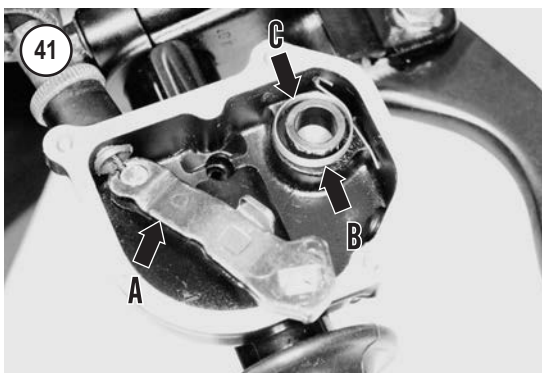
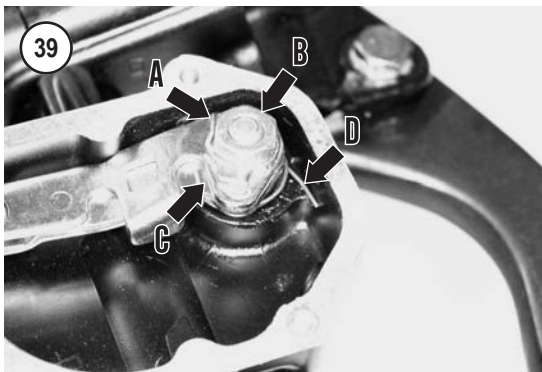
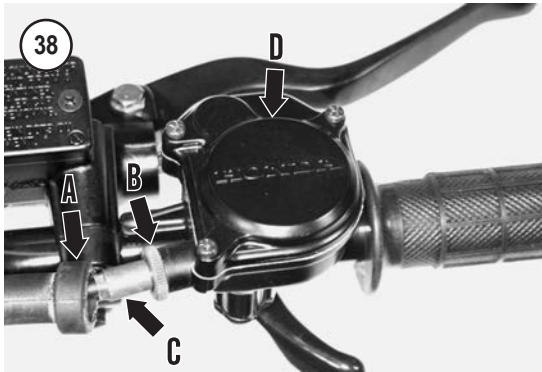
THROTTLE HOUSING

Disassembly/Inspection

Refer to **Figure 37**.

1. Park the vehicle on level ground and set the parking brake.





2. Slide the rubber boot (A, **Figure 38**) off the cable adjuster. Loosen the throttle cable adjuster locknut (B, **Figure 38**) and loosen the adjuster (C).

3. Remove the three cover screws, and remove the cover (D, **Figure 38**) from the throttle housing. Discard the cover gasket. A new one must be installed during assembly.

4. Pry the lock tab (A, **Figure 39**) away from the throttle arm nut (B).

5. Remove the throttle arm nut and lockwasher, and then remove the throttle lever (**Figure 40**) from the housing pivot.

6. Disconnect the throttle cable from the throttle arm (A, **Figure 41**). Remove the throttle arm and spring (B).

7. Clean and dry the throttle housing and all its parts.

8. Inspect the throttle housing assembly (**Figure 42**) as follows:

- a. Check for a weak or damaged spring.
- b. Check the throttle arm. It must not be damaged or corroded.
- c. Check the bushing on the inside (C, **Figure 41**) of the housing. Remove the dust seal (**Figure 43**) and inspect the bushing on the outside of the housing. Replace both bushings if either is worn.
- d. Inspect the dust seal and replace it if any damage is noted.
- e. Inspect the housing cover and body for cracks, a nicked gasket surface or other damage that could admit dirt or water.

Assembly

NOTE

Use a multipurpose lithium grease (NLGI #2, or an equivalent) when grease is called for in the following procedure.

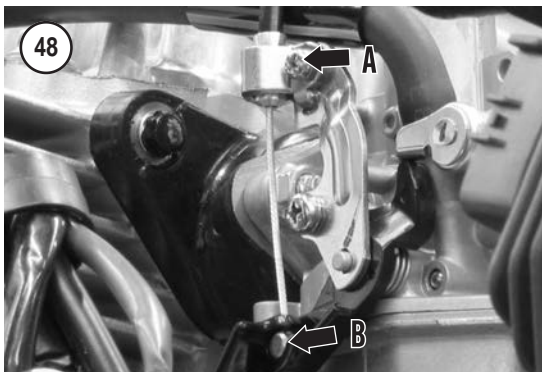
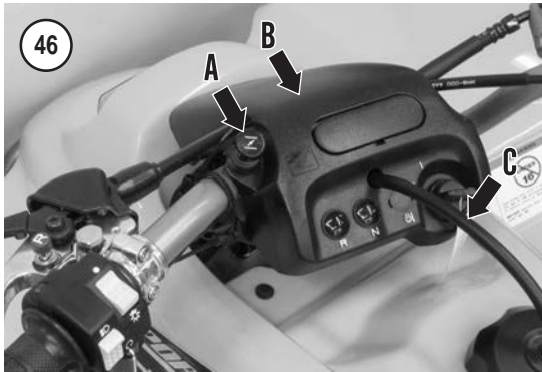
1. Install a bushing on the outside and inside of the housing pivot (C, **Figure 41**).
2. Lubricate a new dust seal with grease, and install the seal (**Figure 43**).
3. Connect the throttle cable ball onto the end of the throttle arm (A, **Figure 41**).
4. Hook the spring around the throttle arm, and install the spring and throttle arm onto the housing pivot. The return spring must be centered around the pivot. Also, make sure the hooked end of the spring engages the throttle arm (C, **Figure 39**) and the straight end (D) sits against the throttle housing.
5. If removed, install the washer (**Figure 40**) onto the throttle lever.
6. Lubricate the throttle lever post with grease.
7. Install the throttle lever post through the bushing/dust seal, into the pivot and out through the throttle arm.
8. Install a new lockwasher over the throttle lever post.
9. Install and tighten the throttle arm nut (B, **Figure 39**).
10. Check the operation of the throttle lever.
 - a. If its movement is rough or sluggish, the return spring is not centered on the pivot post. Remove and reinstall the throttle arm so the spring remains centered.
 - b. Once the throttle lever movement is smooth, bend the lock tab against the nut.
11. Install the throttle housing cover (D, **Figure 38**) with a new gasket. Tighten the cover screws to 4 N•m (35 in.-lb.).
12. Adjust the throttle cable free play as described in Chapter Three.
13. Tighten the throttle cable adjuster locknut (B, **Figure 38**) and slide the rubber boot (A) over the adjuster.

THROTTLE CABLE REPLACEMENT

1. Park the vehicle on level ground and set the parking brake.



2. Remove the handlebar cover (Chapter Fourteen).
3. Remove the fuel tank and heat guard as described in this chapter.
4. Note how the throttle cable is routed through the frame. Make a diagram of the cable's route from the handlebar to the carburetor. The new cable must follow the same route.
5. Disconnect the throttle cable from the throttle arm by performing Steps 1-6 of *Throttle Housing, Disassembly/Inspection* in this chapter.



6. Unscrew the throttle valve cover (**Figure 44**), and remove the throttle valve assembly from the carburetor (**Figure 45**).
7. Disconnect the throttle cable from the throttle valve as described in *Throttle Valve Disassembly* in this chapter.
8. Disconnect the throttle cable from any clips holding the cable to the frame.
9. Pull the throttle cable from the frame.
10. Lubricate the new throttle cable as described in Chapter Three.

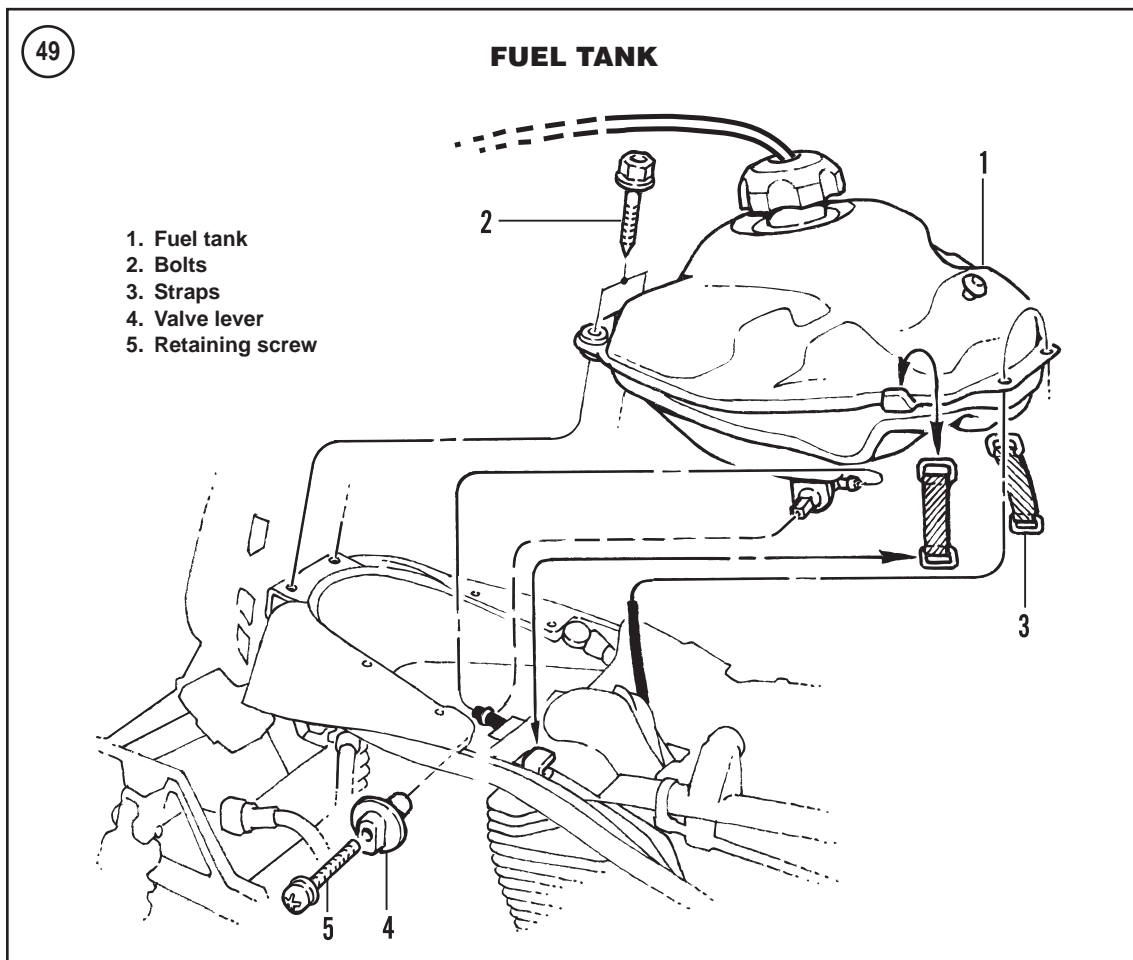
11. Install the new throttle cable through the frame, routing it along the original path from the handlebar to the carburetor. Secure the cable with its frame clips.
12. Connect the throttle cable to the throttle valve as described in *Throttle Valve Assembly* in this chapter.
13. Insert the throttle valve assembly (**Figure 45**) into the carburetor and screw the throttle valve cover (**Figure 44**) into place.
14. Reconnect the throttle cable to the throttle arm and assemble the throttle housing as described in *Throttle Housing, Assembly* in this chapter.
15. Operate the throttle lever and make sure the carburetor throttle valve operates correctly. If throttle operation is sluggish, check that the cable is attached correctly and there are no tight bends in the cable.
16. Adjust the throttle cable free play as described in Chapter Three.
17. Test ride the vehicle and make sure the throttle is operating correctly.

CHOKE CABLE REPLACEMENT

NOTE

The choke cable and knob are only available as an assembly.

1. Park the vehicle on level ground and set the parking brake.
2. Remove the fuel tank and heat guard as described in this chapter.
3. Remove the choke knob (A, **Figure 46**) by turning the large plastic nut (**Figure 47**) securing it to the handlebar cover. Remove the handlebar cover (B, **Figure 46**) as described in *Handlebar Cover* in Chapter Fourteen.
4. Note how the choke cable is routed through the frame. Make a diagram of the cable's route from the choke knob to the carburetor. The new cable must follow the same route.
5. Remove any cable guides securing the choke cable to the frame.
6. At the carburetor, loosen the clamp screw (A, **Figure 48**), and disconnect the choke cable (B) from the choke lever.
7. Pull the choke knob/cable from the frame.
8. Lubricate the new choke cable assembly as described in Chapter Three.
9. Reverse these steps to install the choke cable.



10. Test ride the vehicle and check the choke operation.

FUEL TANK

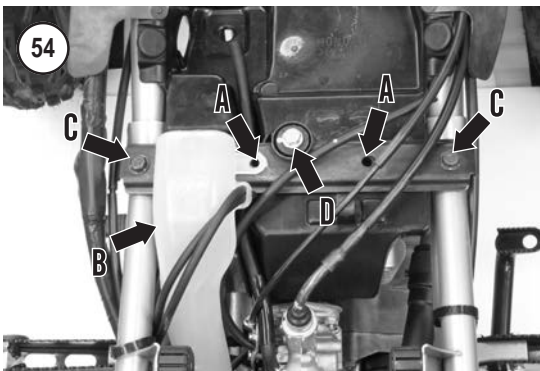
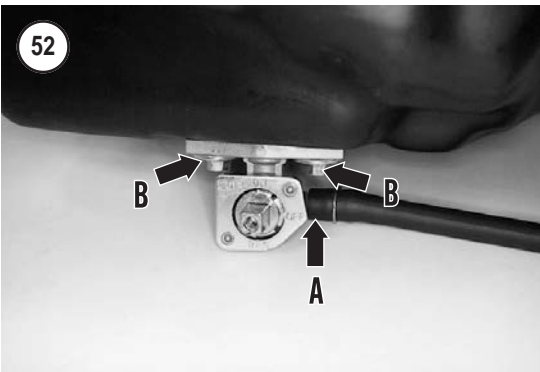
Removal/Installation

Refer to **Figure 49**.

1. Park the vehicle on level ground and set the parking brake.
2. Turn the fuel valve off.
3. Remove the seat, side panels, fuel tank cover and front fender as described in Chapter Fourteen.
4. Disconnect the negative battery cable (Chapter Three).
5. Remove the mounting screw (**Figure 50**) and knob from the fuel valve.
6. Remove the front fuel tank mounting bolts (A, **Figure 51**).



7. Remove the fuel tank holder bands (B, **Figure 51**).
8. Lift the fuel tank up slightly and disconnect the fuel hose from the fuel valve (A, **Figure 52**).
9. Remove the fuel tank vent hose (C, **Figure 46**) from the handlebar cover, and remove the fuel tank.



10. Remove the heat guard by performing the following:

- a. Loosen the intake-air-duct clamp (**Figure 53**).
- b. Remove the retaining clips (A, **Figure 54**), and intake air duct (B).
- c. Remove the bracket bolts (C, **Figure 54**) and cylinder head cover bolt (D).
- d. Remove the heat guard bracket and heat guard.

11. Install the fuel tank by reversing these removal steps, plus the following:

- a. Replace the front fuel tank collars if they are missing or damaged.
- b. Replace missing or damaged fuel tank dampers or holder bands.
- c. If the intake-air-duct connecting tube is pulled out from the air box during disassembly, reinstall the tube by aligning the arrow on the connecting tube with the index mark on the air box.
- d. Secure the fuel hose to the fuel valve with its hose clamp.
- e. Tighten the fuel tank mounting bolts securely.
- f. Tighten the cylinder head cover bolt to 32 N•m (24 ft.-lb.).
- g. Turn the fuel valve on and check for leaks.

FUEL VALVE

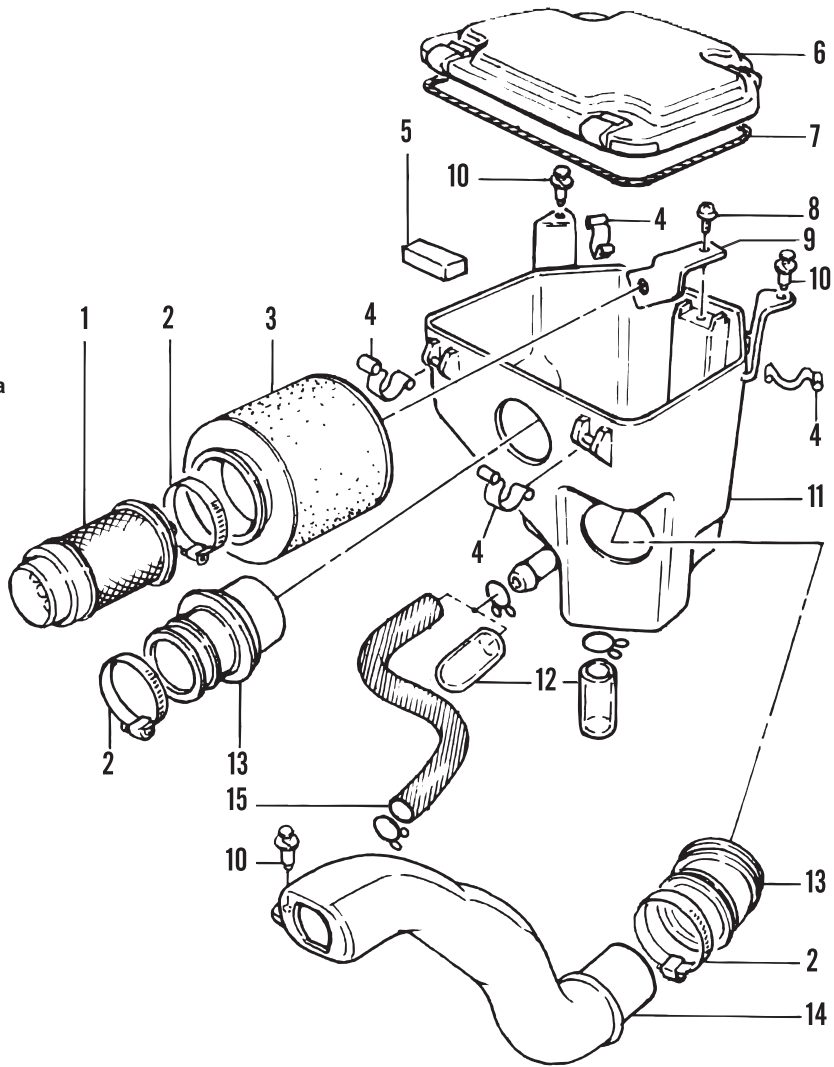
Removal/Installation

1. Remove the fuel tank as described in this chapter.
2. Drain all gasoline from the fuel tank. Store the gas in a can approved for gasoline storage.
3. Remove the fuel valve bolts (B, **Figure 52**) and fuel valve from the fuel tank.
4. Remove the O-ring and strainer screen from the fuel valve.
5. Clean the strainer screen in a high-flash point solvent. Replace the strainer screen if it shows any damage.
6. Install a new fuel valve O-ring.
7. Install the fuel valve by reversing the preceding removal steps, plus the following:
 - a. Tighten the fuel valve mounting bolts securely.
 - b. After turning on the fuel valve, check the fuel valve and hose for leaks.

55

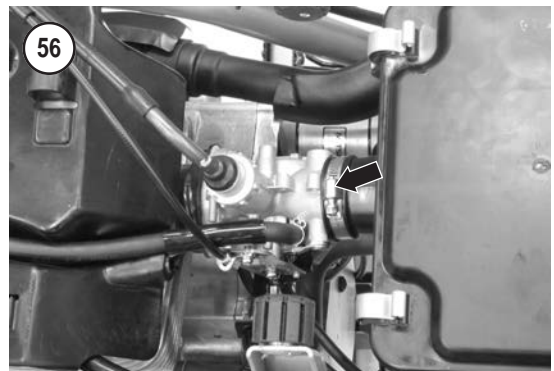
AIR BOX

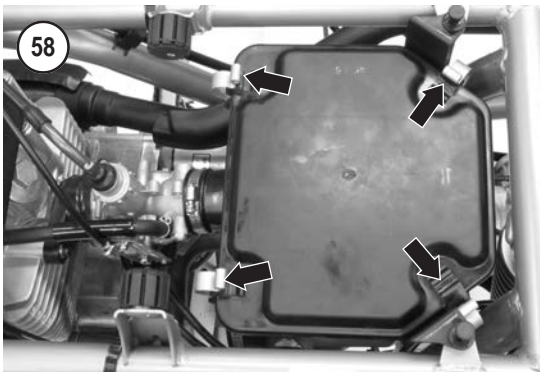
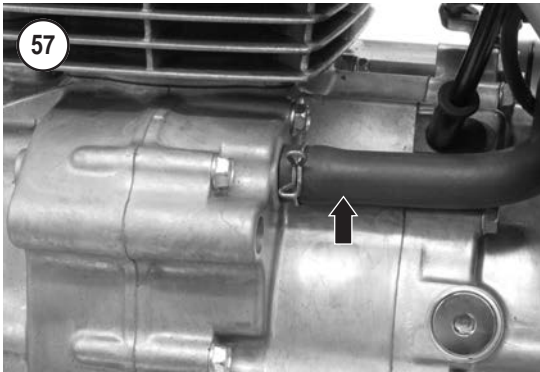
1. Core
2. Clamp
3. Element
4. Spring clip
5. Dust cover
(California models only)
6. Cover
7. Gasket
8. Screw
9. Holder
10. Retaining clip
11. Air box
12. Drain plug (only one on California models)
13. Connecting tube
14. Intake air duct
15. Breather tube (California models only)

**AIR BOX****Removal/Installation**

Refer to **Figure 55** when servicing the air box assembly. Refer to Chapter Three when servicing the air filter element.

1. Park the vehicle on level ground and set the parking brake.
2. Remove the seat and side covers as described in Chapter Fourteen.





3. Loosen the carburetor clamp screw (**Figure 56**) and the intake-air-duct clamp screw (**Figure 53**).
4. Remove the breather hose (**Figure 57**) from the crankcase.
5. Remove the air box retaining clips (**Figure 58**).
6. Move the air box rearward, and disconnect the connecting tubes from the carburetor and intake air duct.
7. Lift the air box from the frame.
8. Stuff a clean rag into the carburetor intake so dust and dirt cannot enter.

9. Install the air box by reversing the removal procedure. Note the following:

- a. Check the carburetor connector tube for loose parts or other debris before connecting it to the carburetor.
- b. If either connecting tube (**Figure 59**) is pulled out from the air box during disassembly, reinstall the tube by aligning the arrow on the connecting tube with the index mark on the respective air box opening.
- c. Make sure the drain plugs are securely installed on the air box.
- d. On California models, make sure the breather tube is secured to the crankcase breather fitting (**Figure 57**).

EXHAUST SYSTEM

Check the exhaust system for deep dents and fractures. Repair them or replace parts immediately. Check the muffler mounting flanges on the frame for fractures and loose bolts. Check the cylinder head mounting flange for tightness. A loose exhaust pipe connection causes excessive exhaust noise and robs the engine of power. Before removing the exhaust system, check for leaks at the exhaust port and at the muffler clamp.

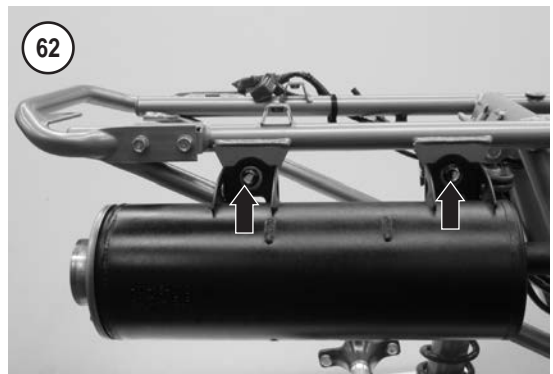
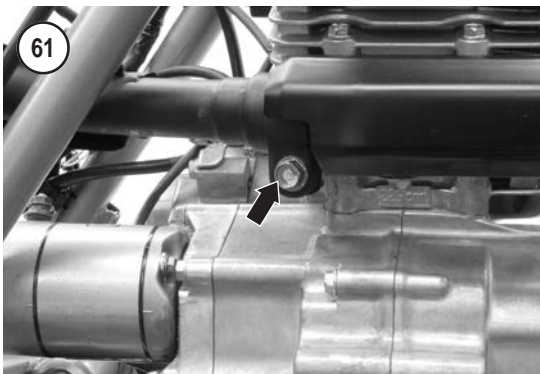
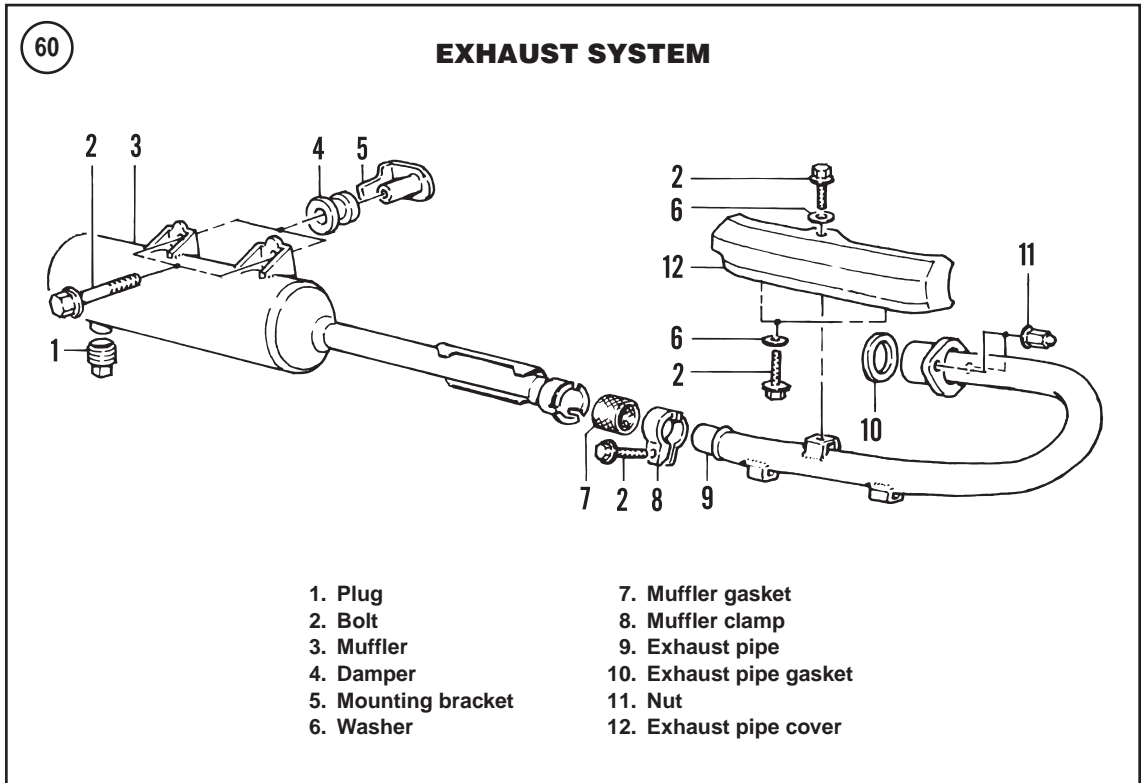
Refer to **Figure 60**.

Removal/Installation

NOTE

The exhaust system can be removed with the front and rear fenders installed on the vehicle. The fenders have been removed in the following photographs for clarity.

1. Park the vehicle on level ground and set the parking brake.
2. Remove the front fender and side covers as described in Chapter Fourteen.
3. Loosen the muffler clamp bolt (**Figure 61**).
4. Remove the muffler hanger bolts (**Figure 62**).
5. Withdraw the muffler from the exhaust pipe, and remove the muffler.
6. Remove the exhaust pipe nuts (A, **Figure 63**), and slide the clamp (B) off the studs and down the exhaust pipe.
7. Pull the exhaust pipe fitting from the exhaust port, and remove the exhaust pipe.

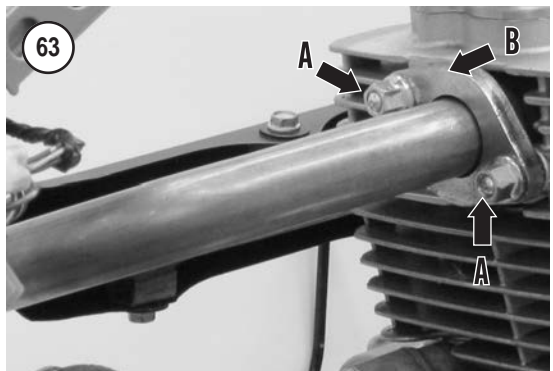


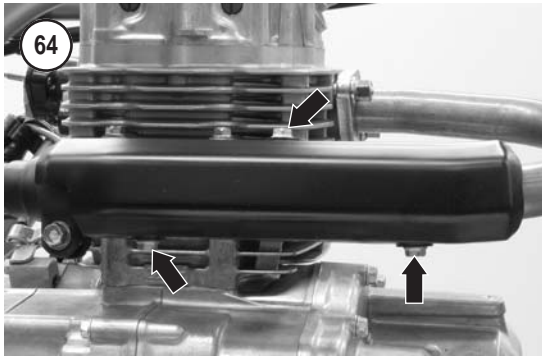
8. Remove the exhaust pipe gasket from the exhaust port, and discard the gasket. The exhaust pipe must be reinstalled with a new gasket.

9. If necessary, remove the mounting screws and exhaust pipe cover (**Figure 64**) from the exhaust pipe.

10. Install the exhaust system by performing the following:

- a. Install a new exhaust header gasket. Apply a small amount of grease to the gasket to hold it





in place, and fit the gasket into the exhaust port.

- b. Fit the exhaust pipe into the exhaust port, and slide the clamp (B, **Figure 63**) over the header studs. Loosely install the exhaust pipe nuts (A, **Figure 63**).
- c. Install a new muffler gasket into the muffler.
- d. From the rear of the vehicle, slide the muffler forward and into the exhaust pipe. Make sure

the muffler pipe is inboard of the frame member.

- e. Slide the muffler clamp over the pipe joint, and loosely install the muffler hanger bolts (**Figure 62**).
11. To minimize the chances of an exhaust leak, tighten the bolts in the following order:
 - a. Exhaust pipe nuts (A, **Figure 63**).
 - b. Muffler clamp bolt (**Figure 61**). Tighten the muffler clamp bolt to 23 N•m (17 ft.-lb.).
 - c. Muffler hanger bolts (**Figure 62**).
12. If removed, install the exhaust pipe cover. Tighten the cover mounting bolts to 22 N•m (16 ft.-lb.).
13. After installation is complete, start the engine and check for exhaust leaks.
14. Install the front fender (Chapter Fourteen).

Spark Arrester Cleaning

Refer to Chapter Three.

Table 1 CARBURETOR SPECIFICATIONS

Carburetor type	Piston valve
Identification number	PDC1D
Throttle bore	20 mm (0.8 in.)
Main jet	#95
Standard ¹	#95
High-altitude ²	#92
Slow jet (pilot jet)	#38
Jet needle clip position	3rd groove from top
Pilot screw setting	
Initial setting ¹	1 7/8 turns out
High altitude ²	1 3/4 turns out
Final setting	7/8 turns out
Float level	14 mm (0.6 in.)
Idle speed	1300-1500 rpm
Throttle lever free play	3-8 mm (1/8-5/16 in.)
1. Below 1500 m (5000 ft.)	
2. 1000-2500 m (3000-8000 ft.)	

Table 2 FUEL AND EXHAUST SYSTEM TORQUE SPECIFICATIONS

Item	N•m	in.-lb.	ft.-lb.
Carburetor intake manifold stud	10	89	—
Cylinder head cover bolt	32	—	24
Exhaust pipe cover bolts	22	—	16
Muffler clamp bolt	23	—	17
Throttle housing cover screws	4	35	—

Copyright of Honda TRX250EX SPORTRAX/TRX250X, 2001-2012 is the property of Penton Media, Inc. ("Clymer") and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.